

WHAT IS CLAIMED IS:

1. A charging hopper for use in charging a rotatable mixer, the rotatable mixer including a drum having a drum opening at one end for receiving and  
5 discharging contents, the charging hopper comprising:  
a chute having a charging opening and a discharge opening at respective ends thereof;  
the chute having a first position operably coupled with the drum such that the discharge opening is disposed  
10 proximate the drum opening;  
a discharge cover having respective first and second edges and respective first and second faces;  
the first edge of the discharge cover operably coupled to the chute proximate the discharge opening;  
15 at least one flexible sealing member having respective first and second faces; and  
the at least one flexible sealing member attached to the discharge cover proximate the second edge such that the flexible sealing member engages at least a lower  
20 portion of the drum opening when the chute is in its first position.
2. The charging hopper of Claim 1 further comprising:  
25 a discharge lip operably disposed proximate the second edge of the discharge cover;  
the discharge lip operable to engage the flexible sealing member such that the flexible sealing member may

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be maintained in a generally concave shape with respect to the first face; and

the first face operable to engage at least the lower portion of the drum opening.

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3. The charging hopper of Claim 1 further comprising:

a plurality of shield fingers operably disposed on the discharge cover; and

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the shield fingers operable to engage the flexible sealing member and to maintain the flexible sealing member and the lower portion of the drum opening in generally sealed engagement during charging of the rotatable mixer.

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4. The charging hopper of Claim 3 further comprising spring biased shield fingers.

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5. The charging hopper of Claim 1 further comprising:

at least one gusset having respective first and second ends; and

the first end operably disposed on the first face of the discharge cover and the second end operably disposed on the chute.

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6. The charging hopper of Claim 1 further comprising:

a bracket operably disposed on the chute proximate the charging opening; and

the bracket operable to couple to the rotatable mixer such that the charging hopper may be pivoted  
5 between at least a charging position and discharging position.

7. The charging hopper of Claim 1 further comprising:

10 a plurality of studs operably coupled to the discharge cover proximate the second edge; and

the studs operable to couple the flexible sealing member to the discharge cover.

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8. A concrete mixer comprising:

a rotatable drum maintained in a frame;

a drum opening at one end of the drum operable to  
receive contents to be agitated and further operable to  
5 discharge agitated contents from the drum;

a motor operably coupled to the drum to rotate the  
drum in the frame;

a charging hopper including a chute, a charging  
opening and a discharge opening;

10 the charging hopper operably disposed proximate the  
drum opening;

an environmental shield operably disposed proximate  
the discharge opening of the charging hopper;

the environmental shield including a discharge cover  
15 having respective first and second faces, a first edge  
and a generally curved second edge;

the discharge cover operably coupled to the chute  
along the first edge;

a generally flexible sealing member operably  
20 disposed on the second generally curved edge of the  
discharge cover; and

the generally flexible sealing member operable to  
engage the drum opening such that undesired leakage of  
contents therefrom may be reduced.

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9. The concrete mixer of Claim 8 further  
comprising the flexible sealing member having a generally  
concave configuration.

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10. The concrete mixer of Claim 8 further comprising:

a plurality of gussets having respective first and second ends; and

5 the first end operably coupled to the first face of the discharge cover and the second end operably coupled to the chute.

11. The concrete mixer of Claim 8 further comprising:

a plurality of spring biased shield fingers operably coupled to the discharge cover and the generally flexible sealing member; and

15 the spring biased shield fingers operable to maintain a leakage reducing seal between the generally flexible sealing member and at least a portion of the drum opening.

12. The concrete mixer of Claim 8 further comprising the charging hopper movably coupled to the drum such that the charging hopper may move from a first, charging position to a second, discharging position.

13. The concrete mixer of Claim 8 further comprising:

a discharge lip operably coupled proximate the generally curved second edge of the discharge cover and to a first edge of the generally flexible sealing member; and

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the discharge lip disposed at an angle with respect to the first face of the discharge cover.

14. The concrete mixer of Claim 8 further  
5 comprising:

a plurality of studs operably coupled to the generally curved second edge of the discharge cover; and the studs operable to couple the generally flexible sealing member to the discharge cover.

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15. A concrete mixer truck having a rotatable mixer mounted thereon, the rotatable mixer including a drum with a drum opening at one end for receiving contents into and discharging contents from the drum comprising:

5 a charging hopper having a discharge opening proximate a first end of a chute and a charging opening proximate a second end of the chute;

the discharge opening disposed proximate the drum opening when the charging hopper is in a first position;

10 an environmental shield operably disposed proximate the discharge opening of the charging hopper when the charging hopper is in the first position;

the environmental shield including a discharge cover and at least one sealing member operably coupled thereto;

15 and

the sealing member operable to engage at least a lower portion of the drum opening when the charging hopper is in the first position such that leakage of contents therefrom may be reduced.

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16. The concrete mixer truck of Claim 15 further comprising:

at least one gusset having respective first and second ends operably coupled to a first face of the discharge cover on the first end; and

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the second end of the at least one gusset operably coupled to the charging hopper.

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17. The concrete mixer truck of Claim 15 further comprising:

a discharge lip operably disposed proximate a first edge of the discharge cover; and

5 the discharge lip operable to couple the flexible sealing member to the discharge cover such that the sealing member is maintained in a generally concave disposition with respect to a second face of the discharge cover.

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18. The concrete mixer truck of Claim 15 further comprising:

a plurality of shield fingers operably disposed proximate a first edge of the discharge cover; and

15 the shield fingers operable to maintain the engagement between the sealing member and the drum opening when the charging hopper is in the first position.

20 19. The concrete mixer truck of Claim 18 further comprising a plurality of spring biased shield fingers.

20. The concrete mixer truck of Claim 15 further comprising:

25 a bracket operably coupled to the drum and to the charging hopper; and

the charging hopper operable to move about the bracket such that the mixer may assume a second, discharging operation.

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